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EXAMINER	
WATKO, JULIE ANNE	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/788,863	SASSINE ET AL.	
	Examiner	**Art Unit**	
	Julie Anne Watko	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-12,14-16,18-20 and 26-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-12,14-16,18-20 and 26-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, 5-12, 14-16, 18-20 and 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arya et al (US Pat. No. 6785094 B2) in view of Sutton et al (US Pat. No. 5965249) and further in view of Takagi et al (US PAP No. 20010008475 A1).

As recited in claim 1, Arya et al show a head suspension assembly 100, comprising: a beam component 110 having a front end (right end in Fig. 6) and a rear end (left end in Fig. 6); a hinge component 108 near the rear end of the beam component 110 for connecting to an actuation arm 16; and a gimbal component 120 near the front end of the beam component for carrying a transducing head 22; wherein the hinge component 108 comprises a first structural damping material (a laminate comprising 36 and 38) and the gimbal component 120 comprises a second structural damping material (a laminate comprising 36 and 38).

As recited in claim 1, Arya et al are silent regarding the 1st structural damping material having a modulus of elasticity greater than approximately 10 gigapascals and a damping capacity greater than approximately 0.02 in a vibration mode having a frequency between about 6010 Hz and about 22650 Hz, and the 2nd structural damping material having a modulus of elasticity greater than approximately 10 gigapascals and a damping capacity greater than approximately 0.02 in a vibration mode having a frequency between about 6010 Hz and about 22650 Hz.

As recited in claim 1, Sutton et al show structural damping materials for use in disk drive suspensions (“In addition to damping vibrations related to noise, better damping materials could also be used to improve disk drive read/write performance, provide a more robust design, and also increase drive reliability by damping vibrations that affect component performance. Locations for such dampers include, but are not limited to the arm/suspension (17) …. For example, the damping material can be optimized to reduce the effect of mechanical resonances in the head actuator .... These resonances are known to limit stability of the control loop and thereby result in a reduction of operational bandwidth for the head or spindle system. Reduction of resonance effects can thereby improve response time for the drive's subsystems”, see col. 12, line 62-col. 13, line 11, especially col. 12, lines 66-67), said materials having a damping capacity greater than approximately 0.02 (insofar as 0.015 is approximately 0.02; see, e.g., Fig. 19, which shows $\tan(\delta)=0.10$ corresponding to 0.016, which is greater than 0.015). Furthermore, Sutton et al disclose structural damping materials having a modulus of elasticity greater than approximately 10 gigapascals (see, e.g., Fig. 18). Moreover, Sutton et al teach that it is desirable to increase a modulus of elasticity and a damping capacity (“materials are needed with improved

dynamic loss moduli and sufficient tan δ" see col. 4, lines 12-13), wherein "all references to dynamic loss and storage moduli will refer to Young's Moduli" (see col. 2, lines 5-6).

Additionally, the law is replete with cases in which when the mere difference between the claimed invention and the prior art is some range, variable or other numeric limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the Applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, Sutton et al's disclosure of structural damping materials having damping capacities and moduli of elasticity within the claimed ranges is evidence that the claimed ranges were within the level of ordinary skill in the art at the time of Applicant's disclosure. Additionally, increasing damping capacities and moduli of elasticity is presumed to have been predictable at the time of Applicant's disclosure.

It is noted by the Examiner that longstanding market pressure toward miniaturization is notoriously well known in the disk drive art, and that smaller devices inherently exhibit vibration modes at higher frequencies. For this reason, it is clear to the Examiner that frequency ranges of interest are increasing in the head suspension art over time in response to longstanding market pressures, such that a person of ordinary skill in the disk drive art would have had reason to experiment and optimize structural damping materials for use within ever-higher frequency ranges. Absent any evidence of unexpected results within the frequency range recited by

Applicant, the behavior of structural damping materials within the recited frequency range is presumed to have been predictable at the time of Applicant's disclosure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed numeric ranges in the course of routine experimentation and optimization. The rationale is as follows: one of ordinary skill in the art would have been motivated to conform to the dictates of the disk drive suspension application by achieving sufficient damping, reducing sound output, while avoiding affecting system response/performance by achieving low mass components which will not adversely affect the momentum of the head, so as to avoid performance problems by generally improving damping performance, as well as by tailoring to the acoustic resonance of a particular disk drive, thus improving read/write performance, providing a more robust design, and also increasing drive reliability by damping vibrations that affect component performance, stabilizing the control loop and improving operational bandwidth for the head system, improving response time by optimizing the damping to reduce the effect of mechanical resonances in the head actuator as taught by Sutton et al (see col. 2, lines 7-8, "The specific properties a damping material must possess are dictated by the constraints of typical applications."; see also col. 2, lines 17-21, "and in situations where the addition of damping components adds undesired mass affecting system response/performance (damping of vibrations in disk drive read/write heads, for example, requires low mass components which will not adversely affect the momentum of the head)."; see also col. 12, line 15-col. 13, line 11, "Within the magnetic drives commonly used in computers, dampers are often used in many locations to damp vibrations that either cause performance problems or acoustical concerns. ... Beyond generally improved damping performance, the

materials of this invention provide added utility over currently available materials because of their ability to be tailored to the acoustic resonance of a particular disk drive. Such resonant modes can vary between different drive designs due to choices in the spindle motor assembly, head actuation, etc., and the ability to tailor peak performance of the damper could greatly reduce sound output. … better damping materials could also be used to improve disk drive read/write performance, provide a more robust design, and also increase drive reliability by damping vibrations that affect component performance. Locations for such dampers include, but are not limited to the arm/suspension (17) …. the improved damping performance would add utility in each situation. For example, the damping material can be optimized to reduce the effect of mechanical resonances in the head actuator or spindle system. These resonances are known to limit stability of the control loop and thereby result in a reduction of operational bandwidth for the head or spindle system. Reduction of resonance effects can thereby improve response time for the drive's subsystems."), while succumbing to longstanding market pressure toward miniaturization as is notoriously well known in the art.

As recited in claim 1, Arya et al are silent regarding at least one of the hinge component and the gimbal component is separately made and attached to the beam component

As recited in claim 1, Takagi et al teach many advantages of making at least one of a hinge component and a gimbal component separately and attaching to a beam component. In a suspension formed by partial etching, "Since the thickness of the spring portion cannot be accurately controlled by partial etching, however, it is unstable, so that the spring constant is liable to variation". See ¶ 0011. When the hinge and beam are separately formed and joined, the need for etching is reduced, so that "the spring portion can enjoy a steady low spring constant".

See ¶ 0018. Furthermore, when separately forming the hinge and beam components, “suitable materials, thicknesses, etc. may be selected individually for the rigid body portion and the spring portion.” See ¶ 0015. This appropriate selection of thicknesses and materials reduces the need for bent edges and ribs to increase stiffness of the beam component, "therefore, the load beam 31 can be shaped so that it cannot easily disturb a flow of air, and stiffness of the load beam is enhanced. Thus, the influence of air turbulence is lessened". See ¶ 0048. “Since the rigid body portion of the load beam and the spring portion are separate components, the rigid body portion can be formed of a material softer than that of the spring portion. Thus, the rigid body portion can be formed with a higher degree of freedom of work, such as pressing.” See ¶ 0018.

Moreover, separate formation of suspension components is presumed to have been predictable at the time of Applicant’s disclosure. Additionally, attachment of suspension components is presumed to have been predictable at the time of Applicant’s disclosure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to separately make at least one of the hinge component and the gimbal component and attach it to the beam component of Arya et al as taught by Takagi et al. The rationale is as follows: one of ordinary skill in the art would have been motivated to stably control the spring constant of the hinge component by reducing a need for etching, to individually select suitable materials and thicknesses of the hinge component and the beam component so as to provide appropriate rigidity and elasticity while lessening an influence of air turbulence, and to provide greater freedom of work as taught by Takagi et al (see ¶ 0011, 0015, 0018 and 0048).

As recited in claim 2, Arya et al are silent regarding whether the first structural damping material has a modulus of elasticity greater than approximately 30 gigapascals in a vibration

mode having a frequency between about 6,010 Hz and about 22,650 Hz, and the second structural damping material has a modulus of elasticity greater than approximately 30 gigapascals in a vibration mode having a frequency between about 6,010 Hz and about 22,650 Hz.

As recited in claim 2, Sutton et al show structural damping materials having modulus of elasticity greater than approximately 30 GPa (see especially Fig. 26, wherein 30 GPa = $3 \cdot 10^{11}$ dyne/cm^2).

See teachings and rationale above regarding the recited vibration mode frequency range.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed ranges in the course of routine experimentation and optimization of the suspension of Arya et al. The rationale is as follows: one of ordinary skill in the art would have been motivated to achieve sufficient damping capacity across the various frequency bands important for disk drive suspensions as taught by Sutton et al (see col. 4, lines 10-19), while succumbing to longstanding market pressure toward miniaturization as is notoriously well known in the art.

As recited in claims 3 and 20, Arya et al show that the first structural damping material and the second structural damping material are substantially identical in composition (insofar as both consist of the 3rd, 4th and 5th layers (36, 38 and 40, respectively) of Arya et al).

As recited in claim 5, Arya et al show that the hinge component 108 applies a preload ("hinge enables the load beam to suspend and load the slider and the read/write head toward the spinning disk surface", see col. 1, lines 32-34) on the transducing head (see 22 and 20) through the beam component 110.

As recited in claim 6, Arya et al show that the entire hinge component 108 is substantially made from the first structural damping material (3^{rd} + 4^{th} + 5^{th} layers laminated together) only.

As recited in claim 7, Arya et al show that the entire gimbal component 120 is substantially made from the second structural damping material (3^{rd} + 4^{th} + 5^{th} layers laminated together) only.

As recited in claim 8, Arya et al show that the hinge component 108 has no external structural damping material attached thereto (see Fig. 6).

As recited in claim 9, Arya et al are silent regarding whether the first structural damping material has a modulus of elasticity greater than approximately 50 gigapascals in a vibration mode having a frequency between about 6,010 Hz and about 22,650 Hz.

As recited in claim 9, Sutton et al show a structural damping material having a modulus of elasticity greater than approximately 50 gigapascals (see Fig. 26, for example).

See teachings and rationale above regarding the recited vibration mode frequency range.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed range in the course of routine experimentation and optimization of the suspension of Arya et al. The rationale is as follows: one of ordinary skill in the art would have been motivated to achieve sufficient damping capacity across the various frequency bands important for disk drive suspensions as taught by Sutton et al (see col. 4, lines 10-19), while succumbing to longstanding market pressure toward miniaturization as is notoriously well known in the art.

As recited in claim 10, Arya et al are silent regarding whether the second structural damping material has a modulus of elasticity greater than approximately 50 gigapascals in a vibration mode having a frequency between about 6,010 Hz and about 22,650 Hz.

See teachings, rationale and motivations above for claim 9.

As recited in claims 11 and 18, Arya et al show that the first structural damping material is an alloy (insofar as it comprises the steel 3rd layer 36).

As recited in claim 12, Arya et al show that the first structural damping material is a laminate comprising a stainless steel layer (3^{rd} layer 36) and a damping material layer (4^{th} layer 38).

As recited in claim 14, Arya et al are silent regarding whether the at least one of the hinge component and the gimbal component is attached to the beam component through an adhesive.

As recited in claim 14, Takagi et al show that the hinge component is attached to the beam component through an adhesive (see ¶ 0045).

Moreover, the use of adhesive is presumed to have been predictable at the time of Applicant's disclosure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select among the finite number of known, predictable attachment methods disclosed by Takagi et al when applying the separate formation and attachment teachings of Takagi et al to the suspension of Arya et al. The rationale is as follows: one of ordinary skill in the art would have had reason to explore the finite number of known options rather than to rely upon an unknown or unpredictable attachment method as is notoriously well known in the art.

As recited in claim 15, Arya et al are silent regarding whether the at least one of the hinge component and the gimbal component is attached to the beam component through welding.

As recited in claim 15, Takagi et al show that the at least one of the hinge component and the gimbal component is attached to the beam component through welding (see ¶ 0044).

Moreover, the use of welding is presumed to have been predictable at the time of Applicant's disclosure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select among the finite number of known, predictable attachment methods disclosed by Takagi et al when applying the separate formation and attachment teachings of Takagi et al to the suspension of Arya et al. The rationale is as follows: one of ordinary skill in the art would have had reason to explore the finite number of known options rather than to rely upon an unknown or unpredictable attachment method as is notoriously well known in the art.

As recited in claim 16, Arya et al show a head suspension assembly 100, comprising: a beam component 110 having a front end (right end in Fig. 6) and a rear end (left end in Fig. 6); a hinge component 108 for connecting to an actuation arm, wherein the hinge component 108 consists essentially of a first structural damping material; and a gimbal component near the front end of the beam component for connecting to a slider assembly carrying a transducer.

As recited in claim 16, Arya et al are silent regarding first structural damping material having a modulus of elasticity greater than approximately 10 gigapascals and a damping capacity greater than approximately 0.02 in a vibration mode having a frequency between about 6,010 Hz and about 22,650 Hz.

See teachings and rationale above for claim 1.

As recited in claim 16, Arya et al are silent regarding whether the hinge component is separately made and attached to the rear end of the beam component.

See teachings and rationale above for claim 1.

As recited in claim 19, Arya et al are silent regarding whether the gimbal component comprises a second structural damping material having a modulus of elasticity greater than approximately 10 gigapascals and a damping capacity greater than approximately 0.02 in a vibration mode having a frequency between about 6,010 Hz and about 22,650 Hz.

See teachings and rationale above for claim 1.

As recited in claims 26 and 28, Arya et al are silent regarding whether the first structural damping material is a composite.

As recited in claims 26 and 28, Sutton et al teach the use of composite (see Figs. 1-2) structural damping materials (see col. 4, line 33-col. 5, line 17) in disk drive suspensions (see col. 12, lines 66-67).

Moreover, the use of a composite is presumed to have been predictable at the time of Applicant's disclosure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the composite material of Sutton et al in the suspension of Arya et al as taught by Sutton et al. The rationale is as follows: one of ordinary skill in the art would have been motivated to achieve sufficient mechanical strength and integrity to provide good performance characteristics, including structural integrity in a suspension where damping is required in conjunction with long term mechanical integrity as taught by Sutton et al (see col. 5, lines 12-17).

As recited in claim 27, Arya et al show that the first structural damping material is a laminate comprising a stainless steel layer 36 (“The third layer is intended to function as the principal load bearing layer of a flexure. It is thus preferably made from a material selected from the group consisting of structural load bearing materials, including but not limited to stainless steel and copper.”, see col. 5, lines 24-28) and a damping material layer 38 (“The fourth layer is intended to function as a flexure insulative layer and/or a damping layer. It is thus preferably made from a material selected from the group consisting of electrically insulating materials and damping materials, including but not limited to polyimides and viscoelastic polymers.”, see col. 5, lines 28-33).

As recited in claim 29, Arya et al show that the first structural damping material is an alloy (insofar as it comprises the steel 3rd layer 36).

As recited in claim 30, Arya et al show that the second structural damping material is a laminate comprising a stainless steel layer (3rd layer 36) and a damping material layer (4th layer 38).

As recited in claim 31, Arya et al are silent regarding whether the second structural damping material is a composite.

See teachings and rationale above for claims 26 and 28.

As recited in claim 32, Arya et al show that the second structural damping material is an alloy (insofar as it comprises the steel 3rd layer 36).

Response to Arguments

4. Applicant's arguments filed 12/03/2009 have been fully considered but they are not persuasive.

On page 7, Applicant argues that because the prior art range and the claimed range do not overlap, obviousness cannot be shown.

Sutton et al show materials having a damping capacity greater than approximately 0.02 (insofar as 0.015 is approximately 0.02; see, e.g., Fig. 19, which shows tan(δ)=0.10 corresponding to 0.016, which is greater than 0.015). Moreover, even if 0.015 were somehow found to be not approximately 0.02, Sutton et al further teach that it is desirable to increase a modulus of elasticity and a damping capacity ("materials are needed with improved dynamic loss moduli and sufficient tan δ across the various frequency bands important for specific applications" see col. 4, lines 12-14), wherein "all references to dynamic loss and storage moduli will refer to Young's Moduli" (see col. 2, lines 5-6). Sutton et al therefore provide motivation for a person of ordinary skill in the art to experiment and optimize structural damping materials in order to achieve higher damping capacities in vibration modes of concern. Applicant does not become an inventor by following the teaching of Sutton et al within a frequency band of concern for a different specific application (a smaller head suspension with higher-frequency resonant modes) in the same field of endeavor (head suspensions). This is especially true in view of the longstanding market pressure toward miniaturization so notoriously well known in the disk drive art.

Sutton et al's own concern with optimizing a material for an exemplary range of frequencies falls far short of the sort of teaching away that would discourage a person of ordinary skill in the art from following the teaching of Sutton et al by optimizing a material for a different frequency range of concern to a specific application, such as a small head suspension. See *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997) (Applicant argued that

the prior art taught away from use of a protective layer for a reflective article having a thickness within the claimed range of "50 to 100 Angstroms." Specifically, a patent to Zehender, which was relied upon to reject applicant's claim, included a statement that the thickness of the protective layer "should be not less than about [100 Angstroms]." The court held that the patent did not teach away from the claimed invention. "Zehender suggests that there are benefits to be derived from keeping the protective layer as thin as possible, consistent with achieving adequate protection. A thinner coating reduces light absorption and minimizes manufacturing time and expense. Thus, while Zehender expresses a preference for a thicker protective layer of 200-300 Angstroms, at the same time it provides the motivation for one of ordinary skill in the art to focus on thickness levels at the bottom of Zehender's suitable' range- about 100 Angstroms- and to explore thickness levels below that range. The statement in Zehender that [i]n general, the thickness of the protective layer should be not less than about [100 Angstroms]' falls far short of the kind of teaching that would discourage one of skill in the art from fabricating a protective layer of 100 Angstroms or less. [W]e are therefore not convinced that there was a sufficient teaching away in the art to overcome [the] strong case of obviousness' made out by Zehender."). In this case, Sutton et al explicitly teach that "the damping material can be optimized to reduce the effect of mechanical resonances in the head actuator" (see col. 13, lines 5-6). Sutton et al further teach that "the materials of this invention provide added utility over currently available materials because of their ability to be tailored to the acoustic resonance of a particular disk drive. Such resonant modes can vary between different drive designs due to choices in the spindle motor assembly, head actuation, etc., and the ability to tailor peak performance of the damper could greatly reduce sound output" (see col. 12, lines 29-35). In view of the longstanding

market pressure toward miniaturization in the disk drive art, there is no invention in following the teaching of Sutton et al by optimizing a damping material to reduce the effect of the higher-frequency mechanical resonances inherent to a smaller head actuator.

Sutton et al disclose several variables which can be varied in the course of routine experimentation and optimization. Such variables include the choice of viscoelastic materials, the choice of substrate materials, choice of open pore or closed pore matrix structure, the extent of filling, lamination with a constraining layer, and choice of adhesive. A person of ordinary skill in the art therefore has many obvious-to-try options for tailoring structural damping materials to achieve high damping capacity in a frequency range of concern. Moreover, absent any evidence whatsoever of unexpected results within the recited frequency range, the functioning of a structural damping material tailored according to the prior art's teaching by routinely experimenting and optimizing said variables is presumed to have been predictable at the time of Applicant's disclosure.

On page 8, last ¶, Applicant argues that "While Sutton teaches that materials can be "tailored to optimize damping performance" (Sutton, col. 15, ll. 6-9), moreover, Sutton does not in fact disclose materials with the claimed properties, merely that it might be possible to optimize these properties, and this is insufficient for obviousness under 35 U.S.C. § 103(a)." Applicant then goes on to cite two cases drawn to the premise that suggestions to experiment and optimize are insufficient to establish inherency. The Examiner has considered this argument thoroughly and asserts that the rejection is not based upon inherency. The rejection is based upon obviousness. In this case, Sutton et al disclose motivation to achieve a high damping capacity, teach several variables which may be altered in the course of routine experimentation and

optimization, and suggest the application of routine experimentation and optimization of said variables in order to tailor a material to a range of frequencies corresponding to a vibration mode of concern. Following the prior art's teaching, suggestion, and motivation (TSM) may not be inherent, but is certainly is obvious, absent any evidence whatsoever of unexpected results.

Predictability is presumed. Applicant may present evidence that predictability is lacking; however, no such evidence is currently of record.

In the paragraph spanning pages 9-10, Applicant argues that "Arya teaches away from a separately formed hinge or gimbal components". The Examiner has considered this argument thoroughly and asserts that Arya's disclosure of some advantages to a "substantially, if not completely, weld free" suspension falls far short of the sort of teaching away from separately formed suspension parts that would discourage a person of ordinary skill in the art from trying a not-completely-weld-free suspension construction. This is especially true in light of the many advantages of a separately formed construction taught by Takagi et al. Separate formation and integral formation are two of a finite number of known methods of manufacture for a head suspension, and regardless which is superior over the other, it would be obvious to try either method when manufacturing any head suspension.

Moreover, the product by process limitations in these claims are directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessman*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue*); In re Marosi et al*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final structure of the product "gleaned" from

the process limitations or steps, which must be determined in a "product by process" claim, and not the patentability of the process limitations. Moreover, an old or obvious product produced by a new method is not a patentable product, whether claimed in "product by process" claims or not. Note that the applicant has the burden of proof in such cases, as the above case law makes clear.

Other arguments are based on dependency and are similarly non-persuasive.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have

questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (571) 272-7597. The examiner can normally be reached on Mon & Fri, 9:30AM to 6:30PM, Tues-Thurs after 4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Julie Anne Watko/
Primary Examiner, Art Unit 2627

January 22, 2010
JAW